

REMARKS

Claim 1 calls for blanket depositing a mobility enhancing silicon material over a region of a semiconductor substrate to form both amorphous and crystalline films. The amorphous film is selectively removed without substantially removing the crystalline film.

Steele does not deposit a mobility enhancing silicon material to form both amorphous and crystalline films. The alleged amorphous film is silicon dioxide which cannot be described as a mobility enhancing silicon material. It is an insulator and has no capability to enhance mobility of carriers.

Moreover, there is not any blanket depositing of a material that forms both amorphous and crystalline films. Instead, in Steele, there is a deposition of the material 34 which forms single crystalline and polycrystalline material, but no amorphous film. The deposition of asserted amorphous film is a later step in fabrication (see column 7, line 27) and is part of the deposition of passivation layers. Thus, it has nothing to do with the deposition of the polysilicon regions 54, 56.

Referring to Figure 8, it can be seen that the single crystalline and polycrystalline material 54, 55, and 56 are at one strata and the silicon dioxide layer 57 is in a different strata and was not part of the deposition that formed the regions 54, 55, and 56. Thus, there is no deposition of a material that forms both amorphous and crystalline films.

There is no selectively removing an amorphous film since there was no amorphous material formed.

As additional examples of differences over Steele, the assertion that the reference teaches carbon doped silicon material being blanket deposited is unsupportable. The material cited at column 2, lines 30-34 and column 4, line 54, have nothing to do with carbon doping.

With respect to claim 6, Hembree teaches using sonication for etching of silicon. The asserted etching in the Steele reference is etching of silicon dioxide. Thus, Hembree has no applicability.

It does not appear that claims 9 or 10 were ever addressed.

With respect to claim 11, it is suggested that Steele teaches carbon doped silicon, but this is not true. There is no basis to believe that he teaches strained channel NMOS transistors.

The same response applies to the arguments made with respect to claim 12.

Nothing in the admitted prior art suggests blanket depositing mobility enhancing silicon material over the removed source/drain regions. Just because source/drain regions are known to be removed, does not teach the blanket depositing the mobility enhancement silicon material over the area where source/drain regions were removed.


With respect to claim 19, Steele does not teach forming a crystalline film over substrate where source/drain regions were removed and forming an amorphous film over the gate structure. Nothing in Steele suggests removing source/drain regions. Removing source/drain regions does not teach forming a crystalline film where the regions were removed and forming an amorphous film over the gate structure.

Claim 26 calls for selectively etching the mobility enhancing material. In Steele, two different materials are utilized, at least one of which, silicon dioxide, is not mobility enhancing. There is no selectively etching of the one material over the gate electrode without etching the material over the substrate.

Therefore, reconsideration of the rejection is requested.

Respectfully submitted,

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